

FIG. 1

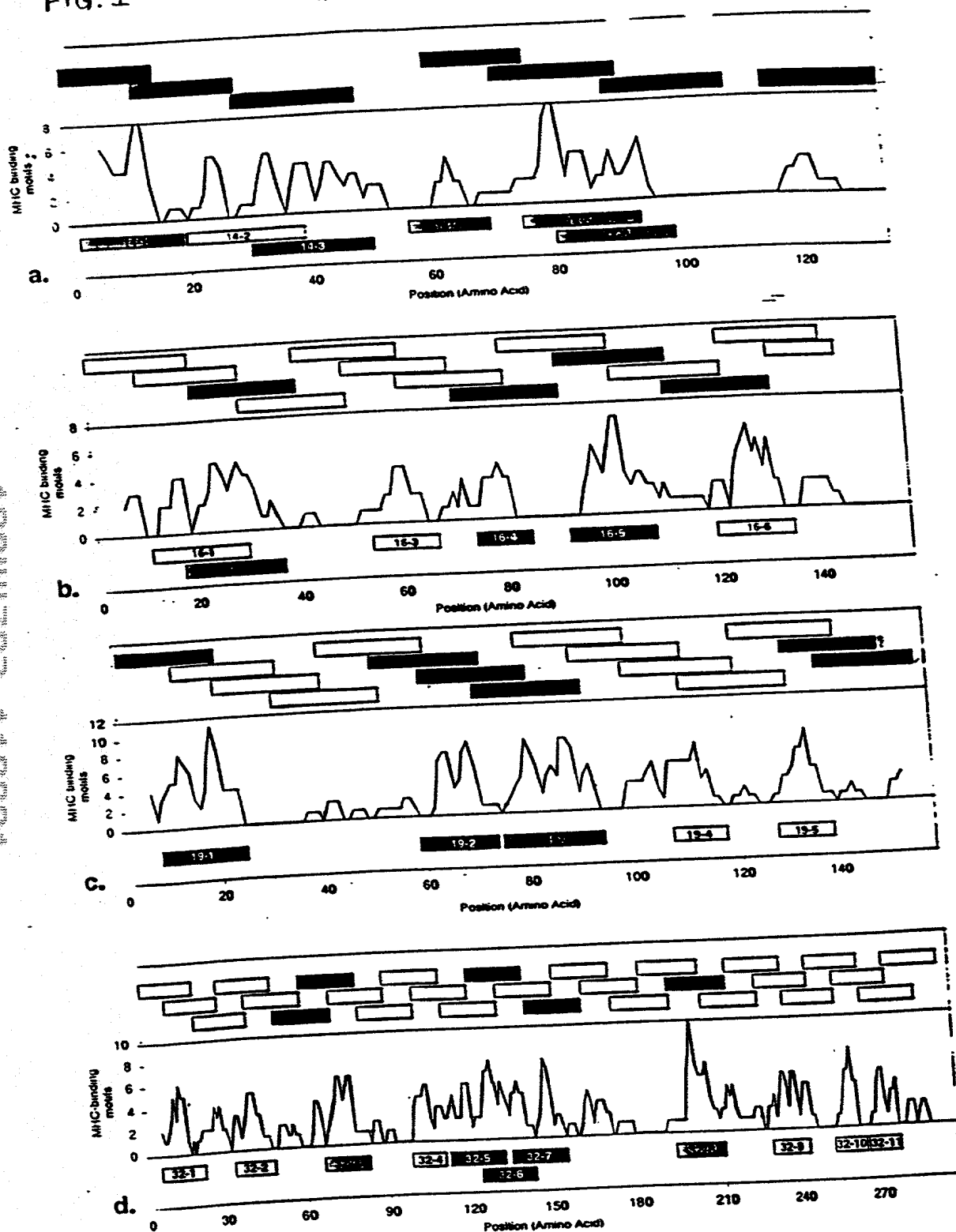


FIG. 2

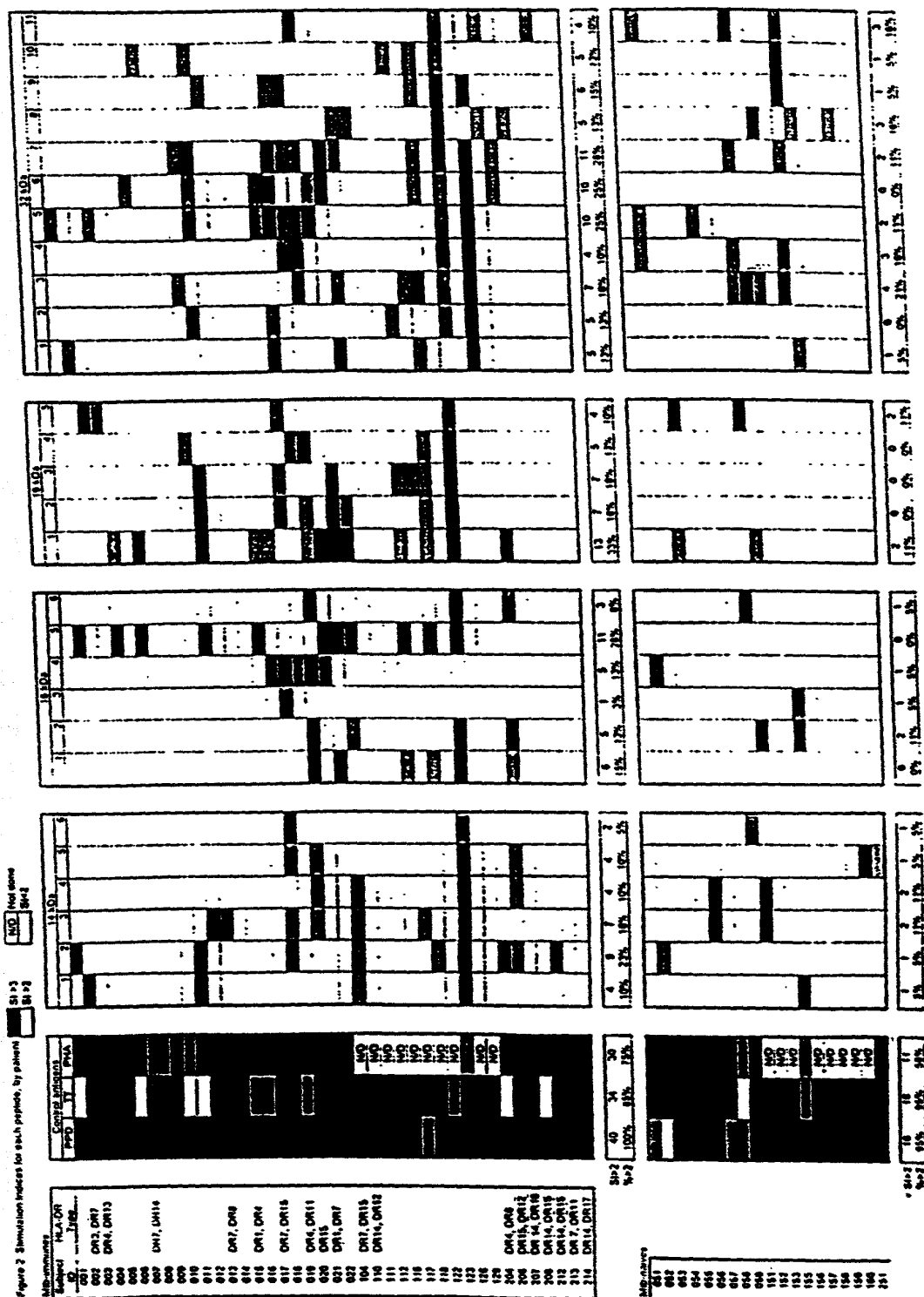


FIG.3

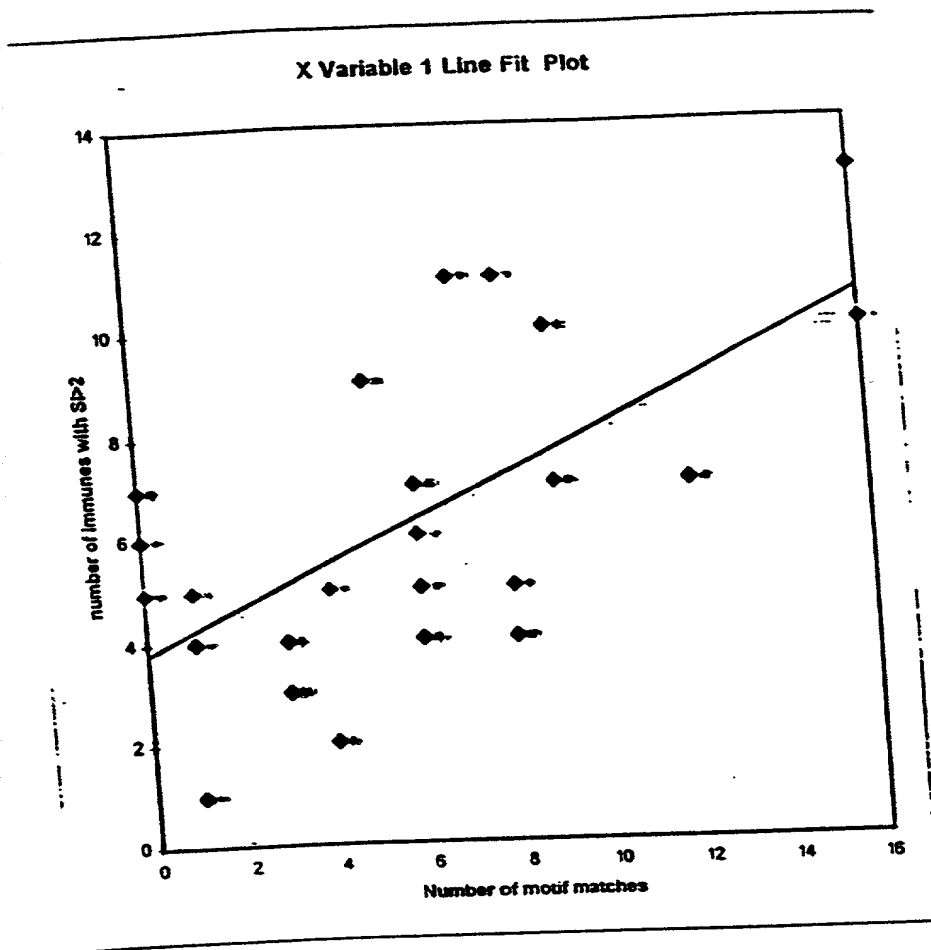


FIG. 4

| Name | Start | Stop | Sequence | L | mm | Study | plate label | Prov | Phil | Gambia | combined |
|-------|-------|------|--|----|----|-------|-------------|------|------|--------|----------|
| 14-1 | 1 | 18 | MLGNAPSVVPNTTLGMHC (SEQ ID NO:1) | 18 | 14 | Brian | 14-1 | 9% | 10% | | 10% |
| 14-2 | 19 | 38 | GSFGSAPSNGLKGLVEFG (SEQ ID NO:2) | 20 | 14 | Brian | 14-2 | 14% | 18% | | 17% |
| 14-3 | 30 | 49 | LKLGVEFGGVAKLNAEVMS (SEQ ID NO:3) | 20 | 16 | Brian | 14-3 | 18% | 13% | | 15% |
| 14-4 | 56 | 68 | QAVMLGTGTNRA (SEQ ID NO:4) | 13 | 3 | Brian | 14-4 | 5% | 13% | | 10% |
| 14-5 | 74 | 93 | CEVWSNVSETISGPRLYGEM (SEQ ID NO:5) | 20 | 10 | Brian | 14-5 | 9% | 13% | | 12% |
| 14-6 | 80 | 99 | VSETISGPRLYGEMTMQTR (SEQ ID NO:6) | 20 | 8 | Brian | 14-6 | 5% | 5% | | 5% |
| 16-1 | 11 | 30 | RSLPFESELFAPPSFAGL (SEQ ID NO:7) | 20 | 12 | Brian | 16-1 | 9% | 15% | | 13% |
| 16-2 | 17 | 36 | FSELFAPPSFAGLRPTFDT (SEQ ID NO:8) | 20 | 12 | Brian | 16-2 | 5% | 15% | | 11% |
| 16-3 | 54 | 66 | AELPGVDPKDVD (SEQ ID NO:9) | 13 | 2 | Brian | 16-3 | 5% | 3% | | 4% |
| 16-4 | 74 | 84 | LTIAKARTEQK (SEQ ID NO:10) | 11 | 1 | Brian | 16-4 | 23% | 0% | | 8% |
| 16-5 | 92 | 107 | FAYGSFRTVSLPVG (SEQ ID NO:11) | 16 | 10 | Brian | 16-5 | 32% | 18% | | 13% |
| 16-6 | 119 | 135 | GILTVSAVSEKPTK (SEQ ID NO:12) | 17 | 9 | Brian | 16-6 | 5% | 10% | | 8% |
| 19-1 | 7 | 25 | VAVAGAILVAGLSGCSSN (SEQ ID NO:13) | 19 | 23 | Brian | 19-1 | 36% | 23% | | 28% |
| 19-2 | 58 | 74 | QNVTSVVCCTAAGNVN (SEQ ID NO:14) | 17 | 10 | Brian | 19-2 | 18% | 8% | | 12% |
| 19-3 | 75 | 94 | IAIGGAATGIAAVLTDGNPP (SEQ ID NO:15) | 20 | 19 | Brian | 19-3 | 14% | 15% | | 15% |
| 19-4 | 107 | 117 | VTLYTSGTGQ (SEQ ID NO:16) | 11 | 3 | Brian | 19-4 | 14% | 10% | | 11% |
| 19-5 | 127 | 139 | SHYKITGTATGVD (SEQ ID NO:17) | 13 | 5 | Brian | 19-5 | 14% | 8% | | 10% |
| 32-1 | 6 | 20 | LPVEYLQVPSMGR (SEQ ID NO:18) | 15 | 9 | Brian | 32-1 | 9% | 10% | | 10% |
| 32-10 | 252 | 264 | GVDFPDGTHSW (SEQ ID NO:27) | 13 | 5 | Brian | 32-10 | 9% | 15% | | 13% |
| 32-11 | 265 | 276 | EYWGQAQLNAMKP (SEQ ID NO:28) | 12 | 4 | Brian | 32-11 | 5% | 15% | | 11% |
| 32-2 | 35 | 47 | ALYLLDGLRAQDD (SEQ ID NO:29) | 13 | 4 | Brian | 32-2 | 9% | 8% | | 8% |

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|--------|-----|-----|--------|--------------------------------------|----|----|--------|--------|-----|-----|-----|-----|
| 32-3 | 67 | 82 | NO:19) | SVMMPVGGQSSFSYSDW (SEQ ID NO:20) | 16 | 4 | Brian | 32-3 | 9% | 23% | | 18% |
| 32-4 | 99 | 110 | NO:21) | TFLTSELPGWLQ (SEQ ID NO:21) | 12 | 6 | Brian | 32-4 | 9% | 5% | | 6% |
| 32-5 | 113 | 132 | | RHVKPTGSVVGLSMAASSA (SEQ ID NO:22) | 20 | 10 | Brian | 32-5 | 32% | 8% | | 17% |
| 32-6 | 123 | 142 | | VGLSMAASSALTIAIHPQQ (SEQ ID NO:23) | 20 | 19 | Brian | 32-6 | 27% | 18% | | 21% |
| 32-7 | 135 | 154 | | LAIHPQQFVYAGAMSGLLD (SEQ ID NO:24) | 20 | 13 | Brian | 32-7 | 27% | 21% | | 23% |
| 32-8 | 193 | 210 | | PLLNVGKLIANNTRVWVY (SEQ ID NO:25) | 18 | 13 | Brian | 32-8 | 0% | 23% | | 15% |
| 32-9 | 227 | 242 | | KFLEGFVRTSNIKFOQ (SEQ ID NO:26) | 16 | 2 | Brian | 32-9 | 14% | 13% | | 13% |
| 32G-01 | 16 | 28 | | PSMGRDIKVQFQS (SEQ ID NO:29) | 13 | 2 | Krista | 32G-01 | 62% | | 24% | 35% |
| 32G-02 | 64 | 75 | | SGLSVMPVGGQS (SEQ ID NO:30) | 13 | 4 | Krista | 32G-02 | 15% | | 28% | 24% |
| 32G-03 | 122 | 139 | | VVGLSMAASSALTIAIYH (SEQ ID NO:31) | 18 | 16 | Krista | 32G-03 | 0% | | 21% | 15% |
| 32G-04 | 136 | 155 | | AIYHPQQFVYAGAMSGLLDP (SEQ ID NO:32) | 20 | 6 | Krista | 32G-04 | 8% | | 14% | 12% |
| 32G-06 | 199 | 211 | | KLIANNTRVWVYC (SEQ ID NO:33) | 13 | 6 | Krista | 32G-06 | 23% | | 17% | 19% |
| 32U-03 | 117 | 129 | | PTGSVVVGLSMAA (SEQ ID NO:34) | 13 | 3 | Krista | 32U-03 | 15% | | 31% | 28% |
| 32U-04 | 142 | 158 | | QFVYAGAMSGLLDPSQA (SEQ ID NO:35) | 17 | 8 | Krista | 32U-04 | 8% | | 21% | 17% |
| 32U-06 | 193 | 211 | | PLLNVGKLIANNTRVWVYC (SEQ ID NO:36) | 19 | 9 | Krista | 32U-06 | 23% | | 21% | 22% |
| 38G-01 | 2 | 22 | | KIRLHTLLAVLTAAPLLIAAA (SEQ ID NO:37) | 21 | 23 | Krista | 38G-01 | 15% | | 28% | 24% |
| 38G-06 | 113 | 133 | | DMAAHKGLMNLALISAQVN (SEQ ID NO:38) | 21 | 16 | Krista | 38G-06 | 38% | | 24% | 28% |
| 38G-07 | 137 | 155 | | PGVSEHLKLNKWLAAAMYQS (SEQ ID NO:39) | 19 | 4 | Krista | 38G-07 | 23% | | 28% | 26% |
| 38G-09 | 167 | 179 | | AALNPGVNLPGTA (SEQ ID NO:40) | 13 | 3 | Krista | 38G-09 | 0% | | 21% | 21% |
| 38G-11 | 211 | 223 | | PGFGTTVDPPAVP (SEQ ID NO:41) | 13 | 3 | Krista | 38G-11 | 31% | | 31% | 31% |
| 38G-14 | 274 | 285 | | LLPDAQSIQAAA (SEQ ID NO:42) | 12 | 8 | Krista | 38G-14 | 8% | | 28% | 22% |
| 38G-17 | 304 | 322 | | PAPDGYPIINYEYAIVNNR (SEQ ID NO:43) | 19 | 3 | Krista | 38G-17 | 15% | | 24% | 21% |
| 38G-18 | 339 | 358 | | AITDGNKASFLDQVHFQPLP (SEQ ID NO:44) | 20 | 3 | Krista | 38G-18 | 15% | | 24% | 21% |

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|----------|-----|-----|---------------------------------------|----|----|--------|--------|-----|-----|-----|-----|
| 38G-19 | 346 | 358 | ASFLDQVHFQPLP (SEQ ID NO:45) | 13 | 2 | Krista | 38G-19 | 0% | | 24% | 17% |
| 38KD-1 | 3 | 22 | IRLHTLLAVLTAAPLLAAA (SEQ ID NO:46) | 20 | 23 | Rose | 38-1 | 60% | 18% | 17% | 34% |
| 38KD-10 | 272 | 291 | NFLPDQSIQAAAAGFASK (SEQ ID NO:47) | 20 | 16 | Rose | 38-3 | 50% | 18% | 22% | 31% |
| 38KD-11 | 316 | 335 | YAVNNRQKDAATAQTLQAF (SEQ ID NO:48) | 20 | 10 | Rose | 38-6 | 40% | 18% | 22% | 28% |
| 38KD-4 | 86 | 102 | TGSGAGIAQAAAAGTVNI (SEQ ID NO:49) | 17 | 10 | Rose | 38-5 | 45% | 18% | 28% | 32% |
| 38KD-5 | 114 | 133 | MAAHKGLMNLALISAQVNI (SEQ ID NO:50) | 20 | 16 | Rose | 38-2 | 45% | 27% | 17% | 30% |
| 38KD-7 | 169 | 188 | LNPGVNLPGTAVVPLHRSYG (SEQ ID NO:51) | 20 | 10 | Rose | 38-4 | 10% | 0% | 22% | 11% |
| 38KD-9 | 239 | 258 | AETPGCVAYIGISFLDQASQ (SEQ ID NO:52) | 20 | 9 | Rose | 38-7 | 25% | 55% | 17% | 31% |
| 38U-01 | 3 | 23 | IRLHTLLAVLTAAPLLAAAAG (SEQ ID NO:53) | 19 | 23 | Krista | 38U-01 | 0% | | 28% | 28% |
| 38U-02 | 37 | 49 | AGAGTVATTPASS (SEQ ID NO:54) | 13 | 5 | Krista | 38U-02 | 23% | | 17% | 19% |
| 38U-05 | 86 | 103 | TGSGAGIAQAAAAGTVNIG (SEQ ID NO:55) | 18 | 10 | Krista | 38U-05 | 0% | | 28% | 28% |
| 38U-06 | 113 | 135 | DMAAHKGLMNLALISAQVNI (SEQ ID NO:56) | 23 | 16 | Krista | 38U-06 | 15% | | 24% | 21% |
| 38U-09 | 164 | 177 | PQIAALNPGVNLPG (SEQ ID NO:57) | 14 | 5 | Krista | 38U-09 | 31% | | 14% | 19% |
| 38U-14 | 273 | 295 | FLLPDAQSIQAAAAGFASKTPA (SEQ ID NO:58) | 23 | 17 | Krista | 38U-14 | 23% | | 10% | 14% |
| E6G-01 | 7 | 19 | NFAGIEAAASAIQ (SEQ ID NO:59) | 13 | 6 | Krista | E6G-01 | 38% | | 50% | 46% |
| E6U-01 | 5 | 24 | QWNFAGIEAAASAIQGNVTS (SEQ ID NO:60) | 20 | 9 | Krista | E6U-01 | 38% | | 32% | 34% |
| ESAT6-1a | 7 | 26 | NFAGIEAAASAIQGNVTSIH (SEQ ID NO:61) | 20 | 10 | Rose | E6-1 | 45% | 9% | 17% | 25% |
| ESAT6-1b | 18 | 37 | IQGNVTSIHLLDEGKQSLT (SEQ ID NO:62) | 20 | 7 | Rose | E6-2 | 25% | 36% | 17% | 25% |
| ESAT6-2 | 63 | 78 | TELNALQNLARTISE (SEQ ID NO:63) | 16 | 8 | Rose | E6-3 | 85% | 27% | 6% | 42% |
| MPT59-1 | 15 | 34 | LMIGTAAAVVLPGLVGLAGG (SEQ ID NO:64) | 20 | 21 | Rose | 59-1 | 35% | 27% | 33% | 32% |
| MPT59-10 | 305 | 324 | EYWGAGLNAMKGDILQSSLGA (SEQ ID NO:65) | 20 | 8 | Rose | 59-5 | 35% | 9% | 6% | 18% |
| MPT59-3 | 100 | 115 | WYQSGSLIVMPVGGQ (SEQ ID NO:66) | 16 | 11 | Rose | 59-3 | 35% | 0% | 17% | 19% |
| MPT59-5 | 163 | 178 | IGLSMAGSSAMILAAY (SEQ ID NO:81) | 16 | 10 | Rose | 59-4 | 55% | 36% | 11% | 35% |

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|----------|-----|-----|---|----|----|------|------|-----|-----|-----|-----|
| MPT59-6 | 181 | 199 | QQFIYAGSLALLDPSQGM (SEQ ID NO:67) | 19 | 12 | Rose | 59-2 | 40% | 9% | 11% | 21% |
| MPT63-1a | 21 | 40 | VVLGWKVSCLKSSTAVIPGY (SEQ ID NO:68) | 20 | 10 | Rose | 63-2 | 40% | 18% | 33% | 31% |
| MPT63-1b | 27 | 46 | VSDLKSSTAVIPGYPVAGQV (SEQ ID NO:69) | 20 | 10 | Rose | 63-3 | 70% | 18% | 11% | 35% |
| MPT63-2 | 56 | 75 | IRGSVTPAVSQFNARTADGI (SEQ ID NO:70) | 20 | 10 | Rose | 63-1 | 40% | 27% | 11% | 26% |
| MPT64-1 | 3 | 22 | IKIFMLVTAIVLLCCSGVAT (SEQ ID NO:71) | 20 | 23 | Rose | 64-1 | 35% | 27% | 11% | 25% |
| MPT64-2a | 50 | 69 | YNINISLPSYYPDQKSLNY (SEQ ID NO:72) | 20 | 7 | Rose | 64-3 | 70% | 36% | 6% | 39% |
| MPT64-3 | 103 | 122 | AIPPRGTQAVVLLKVVYQNAAGG (SEQ ID NO:73) | 20 | 10 | Rose | 64-2 | 60% | 64% | 11% | 44% |
| MPT70-1a | 9 | 28 | ATSFAAAGLAALAVAVSPPA (SEQ ID NO:74) | 20 | 26 | Rose | 70-1 | 30% | 27% | 28% | 28% |
| MPT70-1b | 11 | 30 | SFAAAGLAALAVAVSPPAAA (SEQ ID NO:75) | 20 | 26 | Rose | 70-2 | 55% | 36% | 11% | 35% |
| MPT70-4 | 85 | 97 | VNLVDTLNSGQYT (SEQ ID NO:76) | 13 | 7 | Rose | 70-7 | 55% | 9% | 11% | 27% |
| MPT70-5a | 104 | 123 | AAFSLKLPASTIDELKTNSSL (SEQ ID NO:77) | 20 | 10 | Rose | 70-5 | 50% | 18% | 22% | 31% |
| MPT70-5b | 114 | 133 | IDELKTNSSLTSLTYHVV (SEQ ID NO:78) | 20 | 14 | Rose | 70-3 | 85% | 64% | 22% | 58% |
| MPT70-5c | 124 | 143 | LTSILTYHVVAGQTSFANVV (SEQ ID NO:79) | 20 | 13 | Rose | 70-4 | 50% | 18% | 11% | 28% |
| MPT70-6 | 174 | 192 | GVSTANATVYMIDSVLMPP (SEQ ID NO:80) | 19 | 11 | Rose | 70-6 | 55% | 45% | 17% | 39% |

Brian's peptides in Phil = pop. size of 39
 Brian's peptides in Prov = pop size of 22

Rose's peptides in Phil = pop size of 11
 Rose's peptides in Prov = pop size of 20
 Rose's peptides in Gambia = pop size of 18

Krista's peptides in Gambia 1995 = pop size of 12
 Krista's peptides in Gambia 1996 = pop size of 17
 Krista's peptides in Providence 1997 = pop size of 13
 combined = (%resp pop A x pop size A + %resp pop B x popsize B)/(popsize A + popsize B)
 L = length
 mm = motif match